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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,083

07/09/2004

Hirofumi Komiyama

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WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

SELLERS, ROBERT E

ART UNIT

PAPER NUMBER

1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/501,083

Applicant(s)

KOMIYAMA, HIROFUMI

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>26 January 2007</u> . | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-10, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Ono et al. Patent No. 5,206,313.

1. Ono et al. (col. 8, Table 1) shows a powder coating (col. 6, lines 29-30) prepared from 100 parts by weight of a blend of epoxy resins including the elected species of bisphenol A diglycidyl ether (col. 6, lines 48-59, Epikote 1001, 1002 and 1004), a curing accelerator and from 10 to 29 parts by weight of an o-cresol novolak resin OCN90 having a softening point of 90°C.

Claims 1-5, 10 and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al. Patent No. 6,046,284.

2. Shinohara et al. (cols. 10-11, Examples 3 and 4) shows powder coating compositions containing modified phenolic hydroxyl group containing resins derived from the reaction of an epoxy resin and bisphenol A (cols. 9-10, Examples 1 and 2) resulting in a resin with phenolic hydroxyl groups and polyether moieties having softening points of 105°C and 97°C (col. 10, lines 8-9 and 38), a bisphenol A epoxy resin, and 2-methylimidazole curing actuator. Other cure actuators such as triethylphosphine are described in column 6, lines 16-17.

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3. The modified phenolic hydroxyl group containing resins inherently possess weight average molecular weights within the ranges of claims 4 and 5 based on the softening points within the parameters of claim 1. The modified phenolic hydroxyl group containing resin contains hydroxyl groups within the ambit of the claimed polyol, and cures in the presence of the epoxy resin, thereby also being embraced by the claimed curing agent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 56-28253 (Japanese '253) in view of Eklund et al. Patent No. 6,180,726.

4. Japanese '253 (abstracts) discloses a powder coating comprising 100 parts by weight of a bisphenol A epoxy resin, an acid anhydride and from 20 to 200 parts by weight of the elected species of polyethylene glycol having a molecular weight of from 2000 to 40,000.

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5. The claimed curing accelerator is not recited. Eklund et al. (col. 2, lines 45-64) sets forth a powder coating (col. 10, lines 8-11) obtained from an epoxy resin such as a bisphenol A epoxy resin (col. 6, lines 28-31), an acid anhydride such as trimellitic anhydride or 3,3',4,4'-benzophenonetetracarboxylic anhydride (col. 8, lines 1-2 and 11-12), from about 10 to about 80 phr (col. 4, lines 48-51; col. 5, lines 19-21 and 37-39) of a hydroxyl groups-containing resin having a glass transition temperature of from about 30°C to about 75°C (col. 2, lines 60-64) such as hydroxy-functional polyesters, acrylic resins or silicone resins (col. 3, lines 34-36) and a hardening catalyst (col. 8, line 38).

6. It would have been obvious to incorporate the hardening catalyst of Eklund et al. into the powder coating of Japanese '253 in order to increase the cure rate.

7. Japanese '253 does not recite the particular species of acid anhydride denoted in claims 9 and 18-22. It would have been obvious to employ the trimellitic anhydride or 3,3',4,4'-benzophenonetetracarboxylic anhydride of Eklund et al. as the acid anhydride of Japanese '253 in order to improve adhesion and thermoplasticity (Eklund et al., col. 8, lines 15-17).

Claims 1-4, 8, 10-13, 23-25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier-Westhues et al. Patent No. 5,786,419.

8. Meier-Westhues et al. (col. 3, lines 32-55) reports a powder coating of A) a hydroxyl group-containing component such as a hydroxyl groups-containing polyester having a number average molecular weight of from 400 to 10,000 and a melting range of from 55°C to 60°C (col. 9, Example 1, line 66 to col. 10, line 4), B) a uretdione groups-containing addition polymerization compound based on diisocyanates and C) an acid anhydride groups-containing component, both present in an amount of from 10% to 40% by weight (col. 6, lines 59-62), D) a carboxyl and/or anhydride groups-reactive component such as a polyepoxide (col. 6, lines 26-31) and from 0.1 to 5% by weight of a catalyst (col. 6, line 66 to col. 7, line 11). Although the claimed epoxy resin is not exemplified, it would have been obvious to use the polyepoxide as the carboxyl and/or anhydride groups-reactive component D) predicated upon the equivalency between it and the exemplified β -hydroxylamide established in column 6, lines 41-46.

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Claims 1-4, 8-13, 17-19, 23-25, 29 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over

9. Eklund et al. is described in previous paragraph 5. Although the claimed polyol melting point of from 40°C to 110°C is not explicitly recited, the hydroxyl groups-containing resin possessing a glass transition temperature of from about 30°C to about 75°C (col. 2, lines 60-64) which is melt blended at a temperature preferably from 80°C to 130°C (col. 10, lines 1-6) indicates a melting point within the claimed range.

The prior art made of record and not relied upon is considered pertinent to the disclosure. Yagashita et al. teaches the elected species of eicosanedioic anhydride (col. 3, line 7) as a curing agent for an epoxy group-containing acrylate elastomer (col. 1, lines 54-59).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Robert Sellers
Primary Examiner
Art Unit 1712